

ABSTRACT

The present invention provides an α -particle-emitting radioisotope chelation complex comprising ^{225}Ac Actinium (^{225}Ac) and 1,4,7,10,13,16-hexaazacyclohexadecane-N,N',N',N',N',N'-hexaacetic acid (HEHA) (^{225}Ac -HEHA). Also provided is a bifunctional HEHA, and a bifunctional ^{225}Ac -HEHA. The bifunctional HEHA and the bifunctional ^{225}Ac -HEHA can be conjugated to a targeting agent. In view of the above, the present invention provides a method of making HEHA and methods of making a bifunctional HEHA, including a conjugate thereof. Also provided are a method of treating disease, a method of treating cancer, a method of decontaminating a sample from ^{225}Ac , a method of decontaminating a person who has been externally contaminated with ^{225}Ac , and a method of detoxifying a person who has internalized ^{225}Ac .